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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DESIRE, GREGORY M

ART UNIT PAPER NUMBER

2625

8

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

2

**Office Action Summary**

Application No.

09/786,352

Applicant(s)

BOBER, MIROSLAW Z

Examiner

Gregory M. Desire

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 16-23 is/are rejected.
- 7) ☒ Claim(s) 10-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4 and 5.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language.  
  
This claim is an omnibus type claim.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 and 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Nagao (6,055,340).

Regarding claims 1 and 17-20 Nagao discloses,

Deriving a curvature scale space representation of the object outline by smoothing the object outline (note fig. 5, edge component and smoothing operation, smoothing the edge of original image, examiner interprets as smoothing the object outline, thus deriving a curvature scale representation),

Deriving at least one additional parameter reflecting the shape or mass distribution of a smoothed version of the original curve (note fig. 5, grain component, examiner interprets as additional parameters reflecting distribution of weighting system of a smooth version of original curve), and

Associating the CSS representation and the additional parameter as shape descriptor of the object (note col. 19 lines 45-40, smooth edge and grain are associated as descriptors of the object image)

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagao in view of Wang (6,256,409).

Regarding claim 2 Nagao silent,

Wherein an additional parameter relates to the smoothed outline corresponding to a peak in the CSS image. However Wang discloses, additional parameter relates the

Art Unit: 2625

smoothed outline corresponding to a peak in the CSS image (note col. 5 lines 21-28, individual descriptors, which are additional parameters have corresponding peaks associate with the image). Therefore it would have been obvious to one having ordinary skills in the art, wherein parameters corresponding to a peak in an image in the system of Nagao as evidenced by Wang. Nagao teaches parameters as descriptor a Wang in the same field of endeavor associates parameters to peaks in the image as technique to categorize image parameters (note col. 2 lines 15-20).

Regarding claim 3 Nagao and Wang discloses,

Wherein an additional parameter relates to the smoothed outline corresponding to the highest peak in the CSS image (note col. 9 lines 26-30, large peak in the image corresponds to additional parameters (descriptors)).

Regarding claim 4 Nagao and Wang discloses,

Wherein an additional parameter corresponds to the eccentricity of the outline (note Wang col. 4 lines 64-67, co-occurrence descriptor relates to distinct data of the image).

Regarding claim 5 Nagao and Wang discloses,

Wherein an additional parameter corresponds to the circularity of the outline (note Wang, col. 4 lines 54-55, parameter corresponds to the shape (circularity) of the image).

Regarding claim 6 Nagao and Wang discloses,

Wherein at least one additional parameter uses a region-based representation (note Wang, col. 4 lines 50-52). Orientation map examiner interprets as region-based representation.

Regarding claims 7 and 9 Nagao and Wang discloses,

Wherein an additional parameter is a region moment invariant and zerinke moments (note Wang col. 5 lines 12-15, energy descriptor includes parameters comprising moment).

Regarding claim 8 Nagao and Wang discloses,

Wherein an additional parameter is based on Fourier descriptors (note Wang col. 4 lines 55-51, parameter is based on statistical descriptors examiner interprets as Fourier descriptors).

Regarding claim 16 Nagao is silent,

Calculating a similarity measure between two object outlines using a CSS representation of said outlines and additional parameter. However Wang discloses, calculating a similarity measure between two object outlines using a CSS representation of said outlines and additional parameter (note col. 5 lines 39-45 and lines 51-59). Wang calculates similarity measures between descriptors. Therefore it would have

been obvious to one having ordinary skills in the art to calculate a similarity measure between object outlines in the system of Nagao as evidenced by Wang. Nagao derives CSS representation and additional parameter. Wang in the same field of endeavor calculate a similarity measure to provide a more accurate image matching technique (note col. 2 lines 1-7).

***Allowable Subject Matter***

7. Claims 10-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 10, the prior art fails to disclose, the determining of significant change in curvature than deriving a shape descriptor base on the change. These features in combination with other features are not disclosed in the prior art. Claim 11 depends on claim 10; therefore is objected.

Regarding claim 12, the prior art fails to disclose inputting a query in the form of 2 dimensional outline and comparing query descriptor with each descriptor for stored object using a matching procedure using CSS values and additional parameters to derive a similarity measure. These features in combination with other features are not disclosed in the prior art. Claims 13-15 depend on claim 12, therefore objected.

**Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory M. Desire whose telephone number is (703) 308-9586. The examiner can normally be reached on M-F (8:30-6:00) Second Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregory M. Desire  
Examiner  
Art Unit 2625

G.D.  
March 1, 2004

  
**BHAVESH M. MEHTA**  
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